

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Art Unit : 3682  
Examiner : James Pilkington  
Applicants : Robert A. DeJonge et al.  
Appln. No. : 10/820,424  
Filed : April 8, 2004  
Confirmation No. : 8844  
For : VEHICLE SHIFTER

APPEAL BRIEF (37 CFR §41.37)

This brief is in furtherance of the Notice of Appeal filed in this case on December 26, 2007.

The \$510.00 fee required under §41.20(b)(2) is enclosed. An extension for a period of one month of time to file an Appeal Brief is also enclosed. If any additional fee is required, Appellants ask that the fee be charged to Deposit Account No. 16 2463.

This brief contains these items under the following headings, and in the order set forth below (37 CFR §41.37(c)(1)):

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#### **I. Real Party in Interest**

The real party in interest in this application is GHSP Corporation, a division of JSJ Corporation.

#### **II. Related Appeals and Interferences**

Appellants are aware of no other appeals or interferences that would directly affect or be directly affected by, or have a bearing on, the Board's decision in the pending appeal.

#### **III. Status of Claims**

This is an appeal from a final rejection of claims 1-7, 12, 23-33, 35-37, 51-60, 62-69, 85-94 and 139-149. Claims 1-13, 16-18, 30-39, 60-74, 85-94, and 139-149 have been canceled..

#### **IV. Status of Amendments**

An amendment under 37 C.F.R. §41.33 canceling claims 1-13, 16-18, 30-39, 60-74, 85-94 and 139-149 was filed on February 27, 2008. This amendment has been entered.

Another amendment under 37 C.F. R. §41.33 was filed on March 24, 2008. This amendment was filed to correct an antecedent basis matter noted in the Office Action dated September 26, 2007. Based upon available information on PAIR, this amendment has not yet been acted upon by the Examiner.

All other amendments filed in this application have been entered.

#### **V. Summary of Claimed Subject Matter**

The present invention relates to a shifter assembly 1 (page 5, line 8) including a powered actuator such as a solenoid 12 (page 5, line 17) that selectively shifts a pawl 15 (page 5, line 26) out of engagement with a shift gate 10 (page 5, line 27), such that a user can rotate a shift lever 4 (page 5, line 27) to a new gear position. An operator input device such as a button 16 (page 5, line 28) on shift knob 19 (page 5, line 28) is electrically connected to controller 20 (page 5, line 29). In use, a user pushes button 16 (page 5, line 28), and controller 20 (page 5, line 29) generates a signal to the solenoid 12 (page 5, line 17) to thereby shift the pawl 15 (page 5, line 26) out of engagement with the shift gate 10 (page 5, line 27) to permit movement of the shift lever 4 (page 5, line 27).

As discussed at page 6, line 23 through page 7, line 4, the controller 20 (page 5, line 29) and powered pawl not only selectively control movement of the shift lever 4 (page 5, line 27), but also provide a park lock and Brake Transmission Shifter Interlock ("BTSI") function.

As discussed at page 11, lines 9-27, controller 20 (page 5, line 29) may be programmed to prevent movement to certain gear positions based upon vehicle operating parameters other than the state of the vehicle transmission 21 (page 6, line 6), a position of the shift lever 4 (page 5, line 27), and a position of a vehicle brake pedal 29 (page 6, line 30). As discussed at page 11, line 28 through page 12, line 12, the shift gate 10 (page 5, line 27) may include various gear position notches (Fig. 10) of various heights, such that solenoid 12 (page 5, line 17) can be actuated a selected distance to permit certain shifts spaced upon vehicle operating parameters and/or direction and/or position of movement of shift lever 4 (page 5, line 27), but to prevent other gear changes. Controller 20 (page 5, line 29) may also utilize other vehicle operating parameters such as engine RPM or the like to control the degree retraction of pawl 15 (page 5, line 26).

As discussed at page 15, line 14-16, line 26, the shifter may include either an electric PARK lock (Fig. 3), or a mechanical PARK lock (Figs. 17 and 18). As discussed at page 16, line 27 - page 17 line 5, controller 20 (page 5, line 29) may be operably connected to the main controller of the vehicle, and solenoid 12 (page 5, line 17) may be controlled based upon other vehicle inputs such as a sensor that determines if a seat belt is being used. Other vehicle inputs such engine RPM, vehicle speed or acceleration in a linear direction as well as lateral acceleration or the like may also be utilized by controller 20 (page 5, line 29) to control solenoid 12 (page 5, line 17). Controller 20 (page 5, line 29) may be programmed to prevent downward shifting if a pre-selected engine RPM is present, or could otherwise be programmed to control shifting base 1 vehicle speed or the like.

As discussed at page 17, line 6 - page 17, line 24, controller 20 (page 5, line 29) may be programmed to ensure that the shifter 1 (page 5, line 8) remains synchronized with the transmission. If, for example, a vehicle is traveling at 10 miles per hour in the REVERSE direction, the controller 20 (page 5, line 29) may prevent the transmission from shifting to drive if the shifter removed to the DRIVE position. In this situation, the shift lever 4 (page 5, line 27) and the transmission would be out of synchronization with the shift lever 4 (page 5, line 27) being in DRIVE and the transmission being in REVERSE. To prevent this condition, the shifter is not allowed to shift from any gear position unless

authorized by the controller 20 (page 5, line 29), even if button 16 is actuated. Thus, the vehicle operator could not physically move the shifter out of REVERSE if the car is moving at a pre-selected speed such as, for example, 10 mph. Furthermore, as discussed at page 18, lines 1-15, controller 20 (page 5, line 29) may be configured to permit actuation of pawl 15 (page 5, line 26) at least partly based upon the position, direction, velocity, and/or acceleration of shift lever 4 (page 5, line 27).

### **1. Independent Claim 23**

One aspect of the invention, as recited in independent claim 23, is a shifter 1 (page 5, line 8) for controlling the transmission 21 (page 6, line 6) of a motor vehicle. The shifter 1 (page 5, line 8) includes a base 2 (page 5, line 9), and a shift member such as a lever 4 (page 5, line 27) that is movably mounted to the base 2 (page 5, line 9). A shift gate 10 (page 5, line 27) is fixed to the shift member 4 (page 5, line 27), and shift gate 10 (page 5, line 27) has a plurality of transmission control positions such as "N" (page 10, line 25), "R" (page 10, line 25), "D" (page 10, line 25), "1" (page 10, line 29), "2" (page 10, line 29), and "3" (page 10, line 25) (see also Fig. 10). The shift member 4 (page 5, line 27) is movable to input positions corresponding to the transmission control positions. The shifter 1 (page 5, line 8) includes a powered pawl 15 (page 5, line 26) that is fixed to the base 2 (page 5, line 9) for selectively engaging the transmission control positions of the shift gate 10 (page 5, line 27) to restrict movement of the shift member 4 (page 5, line 27). The shifter 1 (page 5, line 8) also includes a controller 20 (page 5, line 29) that actuates the powered pawl 15 (page 5, line 26) based at least in part on at least one vehicle operating parameter in addition to an input from a vehicle ignition 30 (page 6, line 22), a position of the shift member or lever 4 (page 5, line 27), and a position of a vehicle brake pedal 29 (page 6, line 30).

### **2. Dependent Claim 24**

Claim 24 depends from claim 23, and recites that the at least one vehicle operating parameter comprises engine RPM.

**3. Dependent Claim 25**

Claim 25 depends from claim 23, and recites that the vehicle operating parameter comprises vehicle speed.

**4. Dependent Claim 27**

Claim 27 depends from claim 26, and recites a sensor 256 (page 28, line 27) that generates a signal proportional to the distance moved by the shift member 4 (page 5, line 27), and the controller 20 (page 5, line 29) controls the pawl 15 (page 5, line 26) based on the signal.

**5. Dependent Claim 28**

Claim 28 depends from claim 26, and further recites that the shifter 1 (page 5, line 8) includes an input member 16 (page 5, line 28), and the controller 20 (page 5, line 29) controls the powered pawl 15 (page 5, line 26) based on the number of times the input member 16 (page 5, line 28) is moved during a predetermined time interval. The arrangement of claim 28 is discussed at, for example, page 11, lines 3-8.

**6. Dependent Claim 29**

Claim 29 depends from claim 28, and recites that the controller 20 (page 5, line 29) moves the pawl 15 (page 5, line 26) a first distance if the shift member 4 (page 5, line 27) is moved once during the timer interval, and moves the pawl 15 (page 5, line 26) a second distance that is different than the first distance if the input member 16 (page 5, line 28) is moved twice during the time interval. The arrangement of claim 29 is also discussed at page 11, lines 3-8.

**7. Independent Claim 51**

Another aspect of the invention, as recited in independent claim 51, is a shifter 1 (page 5, line 8) for motor vehicle transmissions including a base 2 (page 5, line 9) and a shift member 4 (page 5, line 27) moveably associated with the base 2 (page 5, line 9) for movement to a plurality of gear positions. The shifter 1 (page 5, line 8) includes a powered pawl mechanism 15 configured to selectively restrict movement of the shift member 4 (page 5, line 27). A controller 20 (page 5, line 29) is configured to

control the powered pawl mechanism 15 (page 5, line 26) based at least in part upon at least one vehicle operating parameter other than a position of a brake pedal 29 (page 6, line 30), a position of the shift member 4 (page 5, line 27), and a vehicle ignition 30.

## **8. Dependent Claim 57**

Claim 57 recites that the moveable shift member 4 (page 5, line 27) shifts between first and second positions, and the controller 20 controls the powered pawl 15 (page 5, line 26) based at least in part on the number of times the moveable member 16 (page 5, line 28) is shifted between first and second positions.

## **VI. Grounds of Rejection to be Reviewed on Appeal**

1. Claims 23, 26-30, 51-57, and 59 stand rejected under 35 U.S.C. §102(e) as being anticipated by Russell U.S. Patent Application Publication No. 2004/0244524.
2. Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Russell '524 in view of Kato '809.
3. Claim 25 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Russell '524 in view of Durieux et al. '687.
4. Claim 58 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Russell '524 in view of Kito '967.

## **VII. Argument**

### **A. The References**

1. **U.S. Patent Application Publication No. 2004/0244524 in the name of Russell.**

Russell '524 discloses a shifter lever mechanism 10 including a base 12, a lever assembly 14, and a lock or detent assembly 16 that holds the shift lever assembly 14 in a desired one of a plurality of gear positions. The lock or detent assembly 16 includes a pawl 54 (Figs. 5-7) that is moveable into and out of engagement with grooves 52 of detent plate 34 due to actuator (solenoid) 56.

With reference to paragraphs [0036] - [0038] and Fig. 8 of Russell '524, a control circuit 102 includes a transmission switch 108, ignition switch 120, brake switch 128, shift lever 124, a first relay

112, and a second relay 116. Battery system 104 and ignition/alternator system 106 are connected to an input of a transmission switch 108 which indicates the position of the shifter lever assembly 14 and the present gear of the transmission. When the transmission switch 108 indicates the shifter lever assembly 14a is in a position other than the PARK position, continuity is provided from an output of the transmission switch 108 to an input of a coil 110 of first relay 112. Output of the first relay coil 110 is connected to the input of a coil 114 of a second relay 116.

Power source 104, 106 is also connected to an input of an ignition switch 120. When ignition switch 120 is in the off position, continuity is provided from an output of the ignition switch 120 to an input of switch 122 of second relay 116 which is operated by coil 114 of second relay 116. When the second relay 116 is unenergized, the circuit is opened. When the second relay 116 is energized, the second relay switch 122 provide continuity from an output of an input of a shifter lever switch 124 which is off or on to indicate whether the operator desires to move the shifter lever assembly 14. The second relay coil 114 is energized whenever the transmission switch 108 is in a position other than PARK. When the shifter lever switch 124 is in an off position, the circuit is opened. When the shifter lever switch 124 is in the on position, continuity is provided between an output of the shifter lever switch 124 and an input of the solenoid 56. Thus, when ignition switch 120 is off solenoid 56 cannot be activated if the shifter lever assembly 14 is in the PARK position, but can be activated if the shifter lever assembly 14 is in any other position. This prevents the operator from moving the shifter lever assembly 14 from the PARK position when the ignition switch 120 is off, but allows the operator to return the shifter lever assembly 14 to the PARK position if the ignition switch 120 was accidentally turned off before the shifter lever assembly 14 was moved to the PARK position.

When the ignition switch 120 is in the on position, continuity is provided from an output of the ignition switch 120 to an input of a switch 126 of the first relay 112 which is operated by the coil 110 of the first relay 112. With the first relay coil 110 energized, continuity is provided from an output of the first relay switch 126 to the input of the shifter lever switch 124. The first relay coil 110 is energized whenever the transmission switch 108 is in a position other than PARK. At paragraph [0038], Russell '524 states that "thus, when the ignition switch 120 is on and the transmission is [sic.] switch 108 in other than PARK, activation and deactivation of the solenoid 56 is controlled simply by activation and deactivation of the shifter lever switch 124 by the operator."



Thus, Fig. 8 of Russell '524 discloses a conventional Brake Transmission Shifter Interlock (BTSD) arrangement that prevents shifting out of park unless the brake is being applied.

## **2. U.S. Patent No. 6,679,809 Issued to Kato et al.**

Kato '809 discloses a gear shifter with force feedback including a control section 8 (Fig. 1) that receives a detection signal a from a detecting means 5 and a transmission signal d from a transmission controller 7, and an engine revolution speed signal e from an engine controller 10. Control section 8 generates an actuator control signal b and a gear shift signal c according to the signals a, d and e.

As illustrated in Fig. 2, control section 8 checks the current value of detection signal a to detect the current position of the shift knob 4. If it is found at step S-2 that the driver has operated the shift knob 4, control section 8 proceeds to S-3 where it decides whether or not that shift knob 4 has been shifted from a specific range to another specific range (for example, from the P to the R range, or from 2nd range to the 1st range). If it is decided at step S-3 that the shift knob 4 has been shifted from a specific range to another specific range, it proceeds to step S-4 where it decides whether or not the driver has operated the release switch 9. If it is decided at step S-4 that the driver has not operated the release switch 9, the control section 8 issues an actuator control signal b for applying to the shift knob for an external force which can lock the shift knob 4 (step S-5) and locks the shift knob 4 (step S-6). At column 3, lines 63 – column 4, line 4, Kato '809 states that:

"If at step S-7 it is decided according to the transmission signal d and engine revolution speed signal e that the shift knob 4 has not been operated properly, then the control section 8 sends the actuator 6 and actuator control signal b which guides the shift knob 4 not into its actually selected position but into an acceptable or expected position according to the transmission signal d and engine revolution speed signal e (step S-11) and then proceeds to step S-9 where the shift knob 4 is shifted into a new shift position. The control section 8 sends the transmission controller 7 a gear shift signal c matched to the new shift position of the shift knob 4 (step S-10)."

At column 4, lines 8-13, Kato '809 states that:

"For instance, if the driver attempts to change the position on the shift knob 4 from the P range to the R range while the engine is running at a high speed, as indicated by a shift pattern table 8a in Fig. 3, the shift knob 4 is guided into the N range, skipping the R range, or guided back into the P range."

**3. U.S. Patent No. 6,059,687 Issued to Durieux et al.**

Durieux '687 discloses a transmission equipped with a "shift-lock" and "key-lock" features. To lock shift lever 1 in the parking position P as shown in Fig. 1 "shift-lock" function, the system includes an electromagnetic actuator to actuate by an electronic unit 3 so as to release the lever arm 1 from the position P when pressure is applied to brake pedal 4 of the vehicle and when ignition key 5 is in position M (or post-ignition position +APC) or in position A (or the position "accessories +ACC"). The "shift-lock" function makes it possible to guarantee that presence of a driver, who depresses the brake pedal 4, before allowing the engine to propel the vehicle. The "key-lock" function prevents removal of the ignition key 5 from the vehicle if the lever 1 is not in position P. At column 4, lines 21-28, Durieux '687 states that:

"The second case involving the release of the lever 1 from position P by means of the actuator 2 occurs when the lever 1 is in position P, the ignition key is in position +APC or +ACC, and the vehicle moves at a speed V greater than a minimum value, for example of about 3 km/hour. A case [sec.] this kind can occur when the vehicle is moving and the driver accidentally moves the lever 1 to position P."

**4. U.S. Patent No. 4,947,967 Issued to Kito et al.**

Kito '967 discloses a locking apparatus for a shift lever in an automatic transmission including a shifter lever 1 supported by a shaft 3 mounted in a frame 2. A manual release member 33 is providing a frame 35 of a cover 34, and member 33 is urged upwardly by a coil spring 37 disposed between manually release member 33 and a mounting plate 36.

**B. Legal Considerations**

Claims 23, 26-30, 51-57 and 59 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0244524, issued to Russell, claim 24 has been rejected under 35 U.S.C. §103(a) as being obvious over Russell '524 in view of Kato '809, claim 25 has been rejected as being obvious over Russell '524 in view of Durieux '687, and claim 58 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Russell '524 in view of Kito '967.

In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of anticipation based upon the prior art. *In re Sun*, 31 USPQ 2d 1451,

1453 (Fed. Cir. 1993) (unpublished). Applicant respectfully asserts that the Examiner has not yet met the burden of establishing a prima facie case of anticipation with respect to the rejected claims.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP 2131 citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Furthermore, “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’” MPEP 2112(IV), citing *In re Robertson*, 169 F.3d 743, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)(quoting *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991))(emphasis added).

In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. MPEP 2142; *In re Fritch*, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992). Applicants respectfully assert that the Examiner has also not yet met his burden of establishing a prima facie case of obviousness with respect to the rejected claims.

In rejecting claims under 35 U.S.C. §103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), viz., (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; and (3) the level of ordinary skill in the art. “[T]he examiner bears the initial burden, on review of the prior art or on any other group, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Furthermore, “‘Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)). Also, “[A]

patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR* at 1741. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See Oetiker*, 977 F.2d at 1445, 24 USPQ2d at 1444; *Piasecki*, 745 F.2d at 1472, 223 USPQ at 788.

**1. Claims 23, 26-30, 51-57, and 59 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0244524 to Russell.**

**a. Claims 23 and 26**

As discussed above, independent claim 23 recites a shifter including, among other features, a powered pawl and a "controller that actuates said powered pawl based at least in part on at least one vehicle operating parameter in addition to an input from a vehicle ignition, a position of the shift member, and a position of a vehicle brake pedal" (emphasis added). As discussed above, these vehicle operating parameters could include the vehicle velocity and direction (page 15, lines 27 - page 16, line 2), operation of a seat belt (page 16), lines 27-30, or other operating parameters such as engine RPM, vehicle speed or acceleration in a linear direction as well as lateral acceleration or the like (page 16, line 30 - page 17, line 5).

The shifter of the present invention, as recited in independent claim 23, controls the powered pawl based on vehicle operating parameters in a manner that is completely different than conventional "PARK lock" and "ignition lock" functions. As discussed above, Russell '524 (Fig. 8) does not disclose control of a powered pawl based on a vehicle operating parameter. Rather, Russell '524 discloses a conventional BTSI arrangement that utilizes the position of the shift lever, ignition state, and brake pedal position to lock the shifter in park according to conventional park and ignition lock criteria/inputs.

Thus, Russell '524 does not include a shifter including a powered pawl and a controller that actuates the powered pawl based at least in part on a vehicle operating parameter as recited in independent claim 23.

Page 13 of the Office Action dated September 26, 2007 states that "Russell clearly does use another operation [sic.] parameter labeled as "other" within Relay 1 and 2 in Figure 8." However,

Figure 8 of Russell '524 and the corresponding text at paragraphs [0036] – [0038] clearly discloses that the "OTHER" outputs of relays 112 and 116 simply refers to a position of the transmission switch 108 other than PARK. To the extent the teaching of Russell '524 is ambiguous, Applicant reiterates that "to establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" MPEP 2112(IV), citing *In re Robertson*, 169 F.3d 743, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)(quoting *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991))(emphasis added).

Furthermore, Russell '524 is not enabled with respect to some "other" operating parameter that is not actually described in any way in Russell '524. A prior art reference must enable the claimed subject matter to support a rejection based on anticipation. See *Elan Pharms. Inc. v. Mayo Found. For Med. Educ. & Research*, 346 F.3d 1051, 68 USPQ2d 1373 (Fed. Cir. 2003).

Claim 26 depends from claim 23, and is therefore believed to be allowable for those reasons set forth above in connection with claim 23. Claim 30 has been canceled, such that the rejection of this claim is believed to be moot.

**b. Claim 27**

Claim 27 depends from claim 26. Claim 26 depends from claim 23, and recites a sensor generating a signal to the controller such that the controller can determine which input position the shift member is in. Claim 27 depends from claim 26, and further recites that the sensor generates a signal proportional to the distance moved, and the controller controls the powered pawl based on the signal.

As discussed in the present application at page 28, lines 27-29, a shifter according to the present invention may include an analog rotary position sensor 253 that provides the controller 20 with a signal corresponding to the position of the shift lever in the 4-aft direction. Russell '524 does not disclose any such arrangement. Specifically, the transmission switch 108 of Russell '524 generates exactly the same output regardless of whether the switch is in the R, N, D, 2, or 1 positions.

This 2-state switch clearly does not generate "a signal proportion to the distance moved" as recited in claim 27.

**c. Claim 28**

Claim 28 depends from claim 26, and recites that the shifter includes an input member, and the controller controls the powered pawl based on the number of times the input member is moved during a predetermined timed interval. As discussed above, at page 10, line 18-line 22, a shifter according to the present invention may be configured to only require a single push or "click" of button 16 on knob 19 of lever 4 for shifting from PARK to REVERSE, but could require that the button 16 be pushed a second time within a small time interval to actuate pawl 14 and shift from REVERSE to PARK to thereby prevent inadvertent shifting into PARK. Also, as discussed at page 11, lines 3-7, the distance the pawl travels may also be controlled by the number of times the button 16 is depressed.

In contrast, the shift lever switch 124 of Russell '524 is either "ON" or "OFF". At paragraph [0037], Russell '524 states that "when the shift lever switch 124 is in the off position, the circuit is open. When shifter lever switch 124 is in the on position, continuity is provided between an output of the shifter lever switch 124 and input of the solenoid 56 . . ." Thus, the shifter lever switch 124 of Russell '524 is either "ON" or it is "OFF", and the control solenoid 118 of Russell '524 is not in any way "based on the number of times said input member is moved during predetermined time interval" as recited in claim 28.

**d. Claim 29**

Claim 29 depends from claim 28, and recites that the controller moves the pawl a first distance if the shift member is moved once during the time interval, and moves the pawl a second distance that is different than the first distance if the shift member is moved twice during the time interval. This aspect of the shifter is described at page 11, lines 3-7, and shown in Fig. 10 of the present application.

Applicant can find no disclosure of any such arrangement in Russell '524. As shown in Fig. 8 of Russell '524, the solenoid is either "OFF" or it is "ON". At paragraph [0033], Russell '524 states that "pin 90 . . . moves along the central axis 92 to an extended position . . . when the solenoid 56 is activated. . . . When the solenoid 56 is unactivated, the pawl 54 and links 58, 60 are aligned with the

pawl 54 in the locking position." At paragraph [0035], Russell '524 states that "a stop 100 . . . limits the pivoting motion of the links 58, 60 when the stop 100 is engaged as links 58, 60 pivot when the solenoid pin 90 is extended." Accordingly, the 2-position pawl of Russell '524 does not anticipate the arrangement of claim 29.

**e. Claims 51-56 and 58-59**

Independent claim 51 recites a shifter including, among other features, a controller configured to control a powered pawl mechanism based at least in part upon at least one vehicle operating parameter other than the position of a brake pedal, a position of a shift member, and a vehicle ignition. In contrast, as discussed above in connection with independent claim 23, Russell '524 (Fig. 8) discloses a convention Brake Transmission Shifter Interlock (BTSI) arrangement that utilizes the position of the brake pedal, shift member, and the vehicle ignition to control the pawl. Applicant reiterates that the "OTHER" output first relay 112 and second relay 116 of Russell '524 refers to the positions of the transmission switch 108 other than the PARK position (e.g., R, N, D, 2, 1). Russell '524 itself does not teach or suggest anything other than a conventional BTSI arrangement.

Claims 52-56 and 58-59 depend from claim 51 and are therefore believed to be allowable for those reasons set forth above in connection with claim 51.

**f. Claim 57**

Claim 57 depends from claim 54, claim 54 recites that the shift member of claim 51 comprises a shift lever. Claim 54 further recites an input device comprising a moveable member mounted on the shift lever. Claim 57 recites that the controller controls the powered pawl based at least in part on the number of times the moveable members shifted between first and second positions. As discussed above in connection with claim 28, controller 20 may be programmed to control pawl 15 based on the number of times button 16 is depressed (page 10, line 26 - page 11, line 7). In contrast, the shifter lever switch 124 (Fig. 8) of Russell '524 is either "OFF" or it is "ON", and no other control of the solenoid is provided.

**2. Claim 24 stands rejected under 35 U.S.C. §103(a) as being obvious over Russell '524 in view of Kato '809.**

**a. Claim 24**

Claim 24 depends from claim 23, and recites that the vehicle operating parameter comprises engine RPM. As discussed above, Russell '524 (Fig. 8) discloses a conventional BTSI control arrangement. Thus, Russell '524 itself does not provide any reason whatsoever to add control of a pawl based on engine RPM. In *KSR*, supra, the Supreme Court identified a number of rationales to support a conclusion of obviousness which are consistent with the proper "function approach" to the determination of obviousness as laid down in *Graham*. MPEP 2143 states that "the Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103."

Because Russell '524 does not disclose use of any vehicle operator parameters (other than the conventional BTSI inputs), modification of Russell '524 to include such features would require adding entirely new functions to the Russell '524 arrangement.

Applicant further notes that "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." MPEP 2143.01, citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Adding features beyond a conventional BTSI arrangement to Russell '524 would clearly change the principle of operation of Russell '524.

Furthermore, Kato '809 discloses "a steer-by-wire gear shifter with forced feedback" that moves the shift knob 4 via actuator 6 into an acceptable or expected position rather than the position actually selected by the operator. (column 3, line 63 - column 4, line 4). In other words, Kato '809 initially allows an operator to move shift knob 4 into an unacceptable position, and then moves the shift knob 4 into an acceptable position. This is directly contrary to the powered pawl of the present invention which *prevents* movement of a shift lever to an unacceptable position.

Furthermore, "It is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *In re Wesslau*, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965); see also *In re Mercier*,



515 F.2d 1161, 1165-66, 185 USPQ 774,778 (CCPA 1975). Applicant respectively asserts that it is improper to select one feature of Kato '809, while ignoring other teachings of Kato '809.

**3. Claim 25 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Russell '524 in view of Durieux '687.**

**a. Claim 25**

Claim 25 depends from claim 23, and recites that the vehicle operating parameter comprises vehicle speed. As discussed above, Russell '524 discloses a conventional BTSI arrangement. Thus, modifying Russell '524 to utilize vehicle operating parameters such as vehicle speed would require modification of Russell '524 to include entirely new operating features that are not disclosed in Russell '524.

Furthermore, the actuator 2 and mechanism 7 of Durieux '687 appear to only control the shifter lever 1 in the parking position P. Clearly, this is not the same as a powered pawl that engages a plurality of transmission control positions of a shift gate as recited in independent claim 23. Applicant respectfully asserts that it is improper to simply select one feature of Durieux '687, while ignoring the other teachings of Durieux '687, to arrive at the claimed invention.

**4. Claim 58 stands rejected as being obvious under 35 U.S.C. §103(a) over Russell '524 in view of Kito '967.**

**a. Claim 58**

Claim 58 depends from claim 51, and is therefore believed to be allowable for those reasons set forth above in connection with claim 51. Furthermore, as discussed at paragraph [0034] of Russell '524, when the solenoid 56 is unactivated, a pin 90 retracts, and a spring member 98 (Fig. 5) pivots the links 58 and 60 to move pawl 54 back to the locking position. Spring member 98 biases pawl 54 into the locking position. The Kito '967 mechanism (Fig. 3) has a much different configuration, and substantial modification of the devices would be required if they were to be combined. As noted above "[A] patent composed of several elements is not proved obvious merely by demonstrating each of its elements, was independently, known in the prior art." *KSR* at 1741.

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**C. Conclusion**

For the reasons set forth above, it is apparent that claims 23-29, and 51-59 define patentable subject matter when the cited references are properly considered in their entirety.

Accordingly, reversal of the rejections of these claims under 35 U.S.C. §102(e) and 35 U.S.C. §103(a) is respectfully solicited.

Respectfully submitted,

3/26/04  
Date

  
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### **VIII. Appendix of Claims (37 CFR §41.37(c)(1)(viii))**

#### **Listing of Claims:**

Claim 1-22 (canceled)

Claim 23: A shifter for controlling the transmission of a motor vehicle, comprising:

a base;

a shift member movably mounted to the base;

a shift gate fixed to said shift member, said shift gate having a plurality of transmission control positions; and

said shift member movable to input positions corresponding to said transmission control positions; and:

a powered pawl fixed to the base for selectively engaging said transmission control positions of said shift gate to restrict movement of said shift member; and including:

a controller that actuates said powered pawl based at least in part on at least one vehicle operating parameter in addition to an input from a vehicle ignition, a position of the shift member, and a position of a vehicle brake pedal.

Claim 24: The shifter of claim 23, wherein:

said at least one vehicle operating parameter comprises engine r.p.m.

Claim 25: The shifter of claim 23, wherein:

said at least one vehicle operating parameter comprises the vehicle speed.

Claim 26: The shifter of claim 23, including:

a controller operably coupled to said powered pawl;

a sensor generating a signal to said controller such that said controller can determine which input position said shift member is in; and wherein:

said controller controls said powered pawl based upon vehicle operating parameters and the

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position of said shift member.

Claim 27: The shifter of claim 26, wherein:

said sensor generates a signal proportional to the distance moved, and said controller controls said powered pawl based on said signal.

Claim 28: The shifter of claim 26, including:

a moveable input member; and wherein:

said controller controls said powered pawl based on the number of times said input member is moved during a predetermined time interval.

Claim 29: The shifter of claim 28, wherein:

said controller moves said pawl a first distance if said input member is moved once during said time interval, and moves said pawl a second distance that is different than said first distance if said input member is moved twice during said time interval.

Claim 30-50 (canceled)

Claim 51: A shifter for motor vehicle transmissions, comprising:

a base;

a shift member movably associated with the base for movement to a plurality of gear positions;

a powered pawl mechanism configured to selectively restrict movement of the shift member;

and

a controller configured to control the powered pawl mechanism based at least in part upon at least one vehicle operating parameter other than the position of a brake pedal, a position of the shift member, and a vehicle ignition.

Claim 52: The shifter of claim 51, wherein:

the powered pawl mechanism includes a pawl member and a shift gate, and wherein the pawl

member is selectively shifted into engagement with the shift gate.

Claim 53: The shifter of claim 51, including:

an input device permitting an operator to provide the controller with a signal, the controller controlling the powered pawl based at least in part on the signal.

Claim 54: The shifter of claim 53, wherein:

the shift member comprises a shift lever;

the input device comprises a movable member mounted on the shift lever.

Claim 55: The shifter of claim 54, wherein:

the movable member comprises a button that translates linearly between a rest position and an actuated position.

Claim 56: The shifter of claim 54, wherein:

the controller controls the powered pawl based at least in part on a selected one of the position, velocity, and acceleration of the movable member.

Claim 57: The shifter of claim 54, wherein:

the movable member shifts between first and second positions; the controller controlling the powered pawl based at least in part on the number of times the movable member is shifted between the first and second positions.

Claim 58: The shifter of claim 55, including:

a release mechanism permitting an operator to manually control the powered pawl mechanism when the button is in the rest position.

Claim 59: The shifter of claim 51, including:

the controller determines at least a selected one of the position, velocity and acceleration of the

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shift member and controls the powered pawl mechanism based at least in part on the selected one of the position, velocity and acceleration.

Claim 60-79 (canceled)

Claim 80: A shifter for vehicles, comprising:

- a base;

- a shift member movably mounted to the base for movement to a plurality of gear positions;

- a shift gate on one of the base and the shift member, the shift gate having a plurality of notches corresponding to the gear positions;

- a powered pawl on the other of the base and the shift member, wherein the powered pawl is shiftable to an engaged position engaging the shift gate to at least partially restrict movement of the shift member relative to the base;

- the powered pawl including a solenoid having a housing and a rod movably mounted within the housing, the rod including a magnet, wherein the magnet is encapsulated by a resilient material fixed to the rod to form an integral damper to reduce noise.

Claim 81: The shifter of claim 80, wherein:

- the magnet is ring shaped with generally parallel side faces.

Claim 82: The shifter of claim 81, wherein:

- the rod is made of a polymer material molded at least partly around the magnet.

Claim 83: The shifter of claim 82, wherein:

- the resilient material defines a melting temperature; and

- the polymer material has a melting temperature that is greater than the melting temperature of the resilient material.

Claim 84: The shifter of claim 83, wherein:

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the polymer material extends along at least a portion of the side faces of the magnet to retain the magnet.

Claim 85-170 (canceled)

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**IX. Evidence Appendix (37 CFR §41.37(c)(1)(ix))**

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**X. Related Proceedings Appendix (35 USC §41.37(c)(1)(x))**

NONE